

DRINKING WATER

PUBLIC DRINKING WATER SYSTEMS

Indicator 1. Public Drinking Water Systems

Background The federal Safe Drinking Water Act of 1974 and its amendments regulate the nation's public drinking water to ensure it is safe for consumption. An estimated 3,516,272 Kentuckians (87 percent) now have access to public drinking water provided by 656 public drinking water systems.¹ But access to public drinking water varies greatly by county. For example, only 37 percent of households in Knott County are served by public water systems, compared to 100 percent in Fayette County.²

About 90 percent of the water withdrawn for drinking is supplied by streams, lakes and reservoirs, with the remainder coming from groundwater sources. The five largest drinking water systems serve nearly one-third of all Kentuckians that have access to public water.

Pollutants can enter raw drinking water sources in a number of ways and come from a variety of sources. In Kentucky, polluted runoff from farmlands, coal mines and discharges from wastewater treatment plants are the greatest sources of water pollution.³ Other pollution sources include failing septic systems, sewage straight pipes, waste sites, urban runoff, combined sewer overflows and toxic spills.

Goal Ensure public drinking water meets health based standards.

Progress Kentucky assumed authority in 1977 from the U.S. Environmental Protection Agency (EPA) to implement the provisions of the Safe Drinking Water Act. During 2000, 48 percent of the 656 public drinking water systems permitted to operate in Kentucky had violations of Safe Drinking Water Act rules. A majority of the 871 violations cited in 2000 were for failure to properly monitor (49 percent) and failure to submit monthly operation reports (31 percent).

Thirteen percent of the 871 violations cited in 2000 were for failure to issue consumer confidence reports. Consumer confidence reports are required under federal and state law. By 2001, every customer served by a community water system should have access to a consumer confidence report that contains information about the system's source water and the quality of the drinking water.⁴ These yearly reports detail violations of water quality standards and treatment rules.

Seven percent of the violations cited in 2000 were for exceeding Maximum Contaminant Level (MCL) health-based drinking water standards. Forty-eight public drinking water systems had violations of MCL standards in 2000. Small public water systems remain the greatest violators of drinking water regulations. A small system is defined as serving fewer than 3,300 people. During 2000, 240 small systems accounted for 76 percent of the drinking water violations. Many small systems do

At a Glance

Number of Kentuckians served by public drinking water
2000. 3.5 million

Number of public drinking water systems
1993 840
2000 656

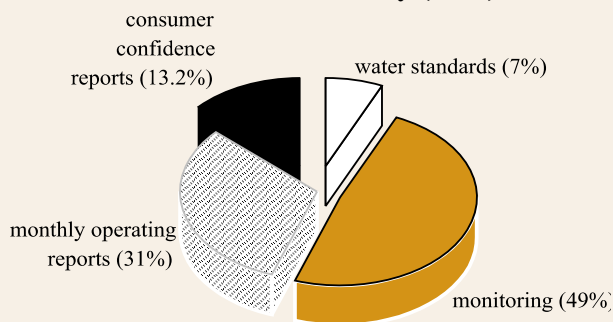
Public drinking water systems with violations
1993 423
2000 316

Measure 1. Public Drinking Water Systems and Violations Trends in Kentucky

Facility Size (Population Served)	Number of Systems*			Number of Systems w/Violations**			Number of Drinking Water Violations** (percent total)		
	1993	1997	2000	1993	1997	2000	1995	1997	2000
<100	220	168	126	130	68	70	733 (46%)	620 (47%)	322 (37%)
101-500	188	145	118	90	58	75	436 (27%)	227 (31%)	251 (29%)
501-1,000	65	55	46	19	19	24	80 (5%)	50 (7%)	45 (5%)
1,001-2,500	132	128	116	64	35	55	129 (8%)	72 (10%)	93 (11%)
2,501-3,300	46	45	34	30	9	16	59 (4%)	14 (2%)	27 (3%)
3,301-5,000	47	47	55	23	13	22	50 (3%)	13 (2%)	45 (5%)
5,001-10,000	80	80	81	41	24	31	80 (5%)	39 (5%)	55 (6%)
10,001-50,000	57	57	75	25	15	22	35 (2%)	20 (3%)	31 (4%)
50,001-100,000	3	3	1	1	1	1	1 (<1%)	1 (<1%)	2 (<1%)
>100,000	2	2	4	0	2	0	0 (0%)	4 (<1%)	0 (0%)
Total	840	730	656	423	239	316	1,603	729	871

PUBLIC DRINKING WATER SYSTEMS

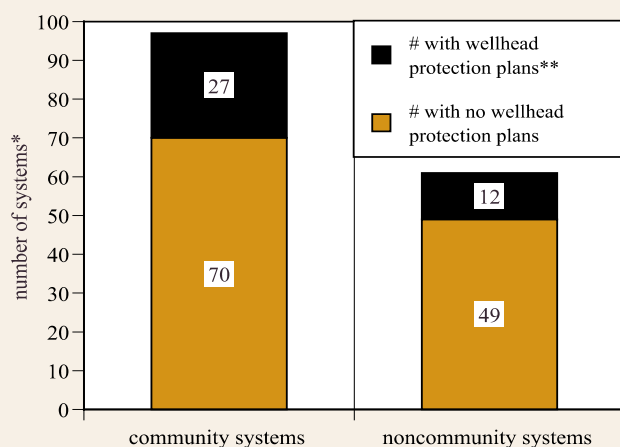
Measure 2. Types of Public Drinking Water Violations in Kentucky (2000)



Measure 3. Public Drinking Water Systems in Significant Noncompliance (2000)

Water System	County	Population Served
Kettle Island Water System	Bell	396
Shouses Mobile Home Park	Breathitt	35
Blue Diamond Camp	Harlan	59
Total	3	490

Measure 4. Drinking Water Systems with Wellhead Protection Programs in Kentucky



drinking water standards (MCLs), monitoring and reporting violations. Includes Phase II and V chemical testing but not bottled water facilities. Percents rounded. Source: Ky. Division of Water.

Measure 2. Based on 871 violations. Includes Phase II and V chemical testing results. Source: Ky. Division of Water.

Measure 3. Includes community water systems with monitoring, reporting and MCL violations. Significant noncompliance are systems with 12 or more monitoring or MCL violations in any 12-month period. Source: Ky. Division of Water.

Measure 4. Based on systems dependent on groundwater as a drinking water source. *Plans approved or under development. Source: Ky. Division of Water.

not have the expertise, equipment or resources to meet various requirements of the Safe Drinking Water Act. The Kentucky Division of Water has encouraged mergers of small nonviable systems in an effort to improve drinking water quality. Between 1979 and 2000, 555 drinking water system mergers have occurred. Mergers have eliminated a number of poorly operated drinking water plants. For example, during 2000, only three public water systems serving a total of 490 people were in significant noncompliance with drinking water rules, compared to 13 systems in 1997.

As a result of the Safe Drinking Water Act Amendments of 1996, all states are required to develop a Source Water Assessment Program (SWAP). A key component of Kentucky's SWAP is an assessment of a water source's susceptibility to contamination. Currently, 97 community systems (those systems that serve customers year round) depend on groundwater for public drinking supplies. To date, 27 community drinking water systems have wellhead protection plans.

There are also 61 noncommunity systems that rely on groundwater for drinking water supplies. Noncommunity systems are defined as serving the same people at least 6 months of the year and typically include industries, schools and state parks. Currently, 12 of these systems have developed wellhead protection plans to protect groundwater supplies. All groundwater dependent public water systems will be required to complete wellhead protection plans by May 2003.

Footnotes

1. As estimated by Ky. Division of Water, Drinking Water Branch by multiplying the number of service connections for community public drinking water systems by a factor of 2.6 persons per household (1990 Census).

2. Ibid.

3. 1998 and 2000 305b Report, Ky. Division of Water.

4. U.S. EPA Safe Drinking Water Goals for 2005, U.S. EPA, December 1999.

Measures - notes and sources

Measure 1. *Includes public community, noncommunity and nontransient systems. **Includes violations of